Cara Lee

1 Simplify without a calculator:

$$13-2\left[5-(6-9)^2\right]$$

$=13-2[5-(-3)^2]$

$=13-2[5-9]$

$=13-2[-4]$

$=13+8$

$=21$

2 Simplify the expression:

$$-2x\left(x^2-4\right)+5x^3$$

$=-2x^3+8x+5x^3$

$=3x^3+8x$

3 Are these two lines parallel, perpendicular or neither?

$2x-3y=5$ and $9x+6y=12$

$2x-3y=5$ $\quad -2x \quad -2x$

$-3y=-2x+5$ $\quad -3 \quad -3 \quad -3$

$y=\frac{2}{3}x-\frac{5}{3}$

$9x+6y=12$ $\quad -9x \quad -9x$

$6y=-9x+12$ $\quad 6 \quad 6 \quad 6$

$y=\frac{-3}{2}x+2$

Perpendicular

4 If you have a party of 5 and the bill, including the 18% tip, is \$92.30, how much was the bill before the tip?

Let x = bill before

$x+.18x=92.30$

$\frac{1.18x}{1.18}=\frac{92.30}{1.18}$

$x=\$78.22$

5 Solve the equation:

$3(x-2)=2x$

$3x-6=2x$ $\quad -3x \quad -3x$

$\frac{-6}{-1}=\frac{-x}{-1}$

$6=x$

$\{6\}$

6 A circular pizza has a circumference of 37.7 inches. What is the radius?

$\frac{2\pi r}{2\pi}=\frac{37.7}{2\pi}$

$r=6$ inches

7 Simplify without a calculator:

$$\frac{1}{2}\cdot\frac{8}{9}-3\left(\frac{2}{9}\right)$$

$$=\frac{4}{9}-\frac{2}{3}$$

$$=\frac{4}{9}-\frac{6}{9}$$

$$=\frac{-2}{9}$$

8 Write the equation of the line that has a slope of -3 and goes through the point (0,-2).

$y=mx+b$

$y=-3x-2$

9 Solve the equation:

$$10\cdot\frac{2x}{5}-\frac{1}{2}=\frac{3x}{10}\cdot 10 \qquad LCD=10$$

$4x-5=3x$

$-4x \qquad -4x$

$\frac{-5}{-1}=\frac{-x}{-1}$

$5=x$

$\{5\}$

10 Simplify the expression:

$$3\left(2xy^4\right)^5$$

$=3\cdot 2^5x^5\cdot y^{20}$

$=3\cdot 32x^5y^{20}$

$=96x^5y^{20}$

11 Write the equation of the line that goes through the points (1,3) and (5,-5).

$m=\frac{-5-3}{5-1}=\frac{-8}{4}=-2$

$y=-2(x-1)+3$

$y=-2x+2+3$

$y=-2x+5$

Order of Stations

Write the order of the stations here. You must go through all stations in the correct order to escape Math 60!

1-7-2-5-9-4

-10-8-11-6-3-1